ABSTRACT

METHOD FOR SELECTIVE TRIMMING OF GATE STRUCTURES AND APPARATUS FORMED THEREBY

A method for forming a trimmed gate in a transistor comprises the steps of forming a polysilicon gate conductor on a semiconductor substrate and trimming the polysilicon portion by a film growth method chosen from among selective surface oxidation and selective surface nitridation. The trimming step may selectively compensate n-channel and p-channel devices. Also, the trimming film may optionally be removed by a method chosen from among anisotropic and isotropic etching. Further, gate conductor spacers may be formed by anisotropic etching of the grown film. The resulting transistor may comprise a trimmed polysilicon portion of a gate conductor, wherein the trimming occurred by a film growth method chosen from among selective surface oxidation and selective surface nitridation.